COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Tidewater Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Owens-Brockway Glass Container Inc.
150 Industrial Blvd.
Toano, Virginia
Permit No. TRO-60923

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Owens Brockway has applied for a Title V Operating Permit for its Glass Container facility, located in Toano, Virginia. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date: _____.

Air Permit Manager:_____ Date: _____.

Deputy Regional Director:_____ Date:_____.

Attachment A: Annual update for 2004.
Attachment B: minor NSR permit of March 5, 2004.
Attachment C: minor NSR permit of April 12, 2005

FACILITY INFORMATION

Permittee
Mr. William C. Swarts
Plant Manager
Owens-Brockway Glass Container Inc.
150 Industrial Boulevard
Toano, Virginia 23168

Facility
Owens-Brockway Glass Container Inc.
150 Industrial Boulevard
Toano, Virginia 23168

County-Plant ID No. 51-095-00022

SOURCE DESCRIPTION

NAICS: 327213 - Manufacture of glass bottle containers.

This source includes processes of Raw Material and Cullet Receiving and Storage, Raw Material Blending and Mixing, Glass Melting Furnaces, Glass Forming, Final Bottle Treatment and Packaging. Raw Materials are received by truck and rail and are stockpiled in several storage areas and strategically conveyed to process silos. Raw materials include cullet (post-consumer recycled glass), sand, salt cake, limestone and soda ash. The raw materials are fed in various amounts from the silos to make a batch for the furnaces.

The batch is produced from the various silo components through conveying, weighing on the scales, then mixing and transporting to the mixed batch storage bin. The furnaces are fed from this storage bin during the melting process. Furnaces A and B melt the batch using primarily natural gas with electrical boosting available. Each furnace has attached a refiner and a forehearth that require natural gas for heating. The refiner is employed to heat condition the molten glass in preparation for delivery to the forming process. The forehearths transport the refined glass to the forming process. Bottle forming machines shape the refined glass where it is sheared, gobbed and placed in a prepared mold. Emissions from the burning of natural gas at the refiners, the forehearths and the lehrs is minimal and is vented inside the plant, so these emission units have been moved to the insignificant list in the permit.

The facility has just recently (2004) installed an Electrostatic precipitator (ESP-1) to control particulate emissions from the glass melting furnaces. The result of this retrofit to the furnaces has reduced PM and PM10 (filterable) emissions by more than 90%. Recent stack testing established the nominal emission rate for each furnace as 1.6 lbs of particulate per ton of glass produced. The ESP has a vendor guarantee for control down to 0.2 lbs of particulate per hour. At 12.5 tons of glass-pull per hour, that would place the emission factor in the range of 0.016 lbs/ton of glass.

The molded glass containers are treated in the hot end surface treatment (HEST) process using Monobutyl tin trichloride (MBTT) as a fine spray mist. Overspray of the mist is vented from the exhaust hoods to the atmosphere. The MBTT actually reacts on the surface of the glass to form a tin oxide coating. From there the molded bottles are annealed in the lehrs which are heated with natural gas.

The facility is a Title V major source for its emissions of Nitrogen Oxides, Sulfur Dioxide and PM10. This source is located in a non-attainment area for ozone. The facility was permitted under a Minor NSR Permit issued on March 5, 2004 and the HEST system was permitted on April 12, 2005.

COMPLIANCE STATUS

The facility is inspected once a year.

The facility is currently in compliance with all permit requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD) and ID	Pollutant Controlled	Permit Date
Fuel Burning Equipment						
1-A	S-1	Furnace A	51.9 mmBtu/hour	Electrostatic precipitator; ESP-1	PM, PM10	3/5/2004
1-B	S-2	Furnace B	51.9 mmBtu/hour	Electrostatic precipitator; ESP-1	PM, PM10	3/5/2004
Other Equipment						
6	S-5	HEST – Hot End Surface Treatment	24 lbs MBTT per hour	N/A	N/A	4/12/2005

EMISSIONS INVENTORY

A copy of the 2004 annual emission update is attached as Attachment A. Emissions are summarized in the following tables.

2004 Actual Emissions

	Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO_2	PM-10	NO_x
Plant	0.6	5.6	261.9	37.7	545.4
Total	0.6	5.6	261.9	37.7	545.4

2004 Facility Hazardous Air Pollutant Emissions

Pollutant	Hazardous Air Pollutant Emissions in Tons/Year
Ammonia	4.0

RENEWAL OF TITLE V PERMIT, ISSUED AUGUST 7, 2000.

The Title V permit for Owens-Brockway Glass Container Inc. will expire August 7, 2005. This renewal permit will replace the existing Title V permit on the expiration date. The Title V permit application was received on February 7, 2005, so it was considered timely on receipt. However, the application did not contain a statement on the applicability of CAM to the facility. CAM is an essential factor in assuring that adequate monitoring is applied to any facility that is subject to the Title V permit program. An analysis of CAM for the Toano facility was requested from the facility prior to receipt of the Title V application and it was received via email prior to the deadline. It was determined from the latest look at the Toano plant, that CAM no longer applies to the glass melting furnaces for particulate emissions. Based on the latest stack test from 2001 and the switch to 100% natural gas firing, the maximum emissions from each furnace are now approximately 85 tons per year. This maximum is below the 100 ton threshold for CAM applicability. Unless there are other reasons, unknown at this time, the Toano facility has qualified to be exempt from CAM, based on the fuel change and installation of the ESP.

CHANGES TO TITLE V OPERATING PERMIT

Changes for furnaces, refiners, forehearths, lehrs and glass recycling system.

II. Emission Units
The refiners, forehearths and lehrs were found to be insignificant – moved them to insignificant list.

A. Limitations
Furnaces, refiners, forehearths, lehrs and glass recycling system – see NSR permit dated March 5, 2004.
- Furnaces no longer fire No. 6 fuel. ESP installed. There are no applicable requirements for the refiners, forehearths and lehrs; they do not appear in the permit. The glass recycling system, including the glass crusher, was redesigned and the emissions were found to be exempt from permitting – no requirements in the permit. Emission limits reduced in Title V draft below the standards for SO2 and particulate.

B. Monitoring
COMs removed, ESP and NOx CEMs installed – see NSR permit dated March 5, 2004.
- The new control and monitoring equipment can now be monitored by the annunciator panel in the control room. New ESP and CEMs satisfy periodic monitoring requirements.

C. Recordkeeping
Fuel type burned, COMs records and old emission factors deleted – NSR permit dated March 5, 2004.
- New recordkeeping includes, glass production, NOx CEM data, ESP parameters and maintenance, CEM calibration checks, operating time and any excess emissions and visible emissions monitoring.

D. Testing
ESP function – see NSR permit dated March 5, 2004

E. Continuous Emission Monitors
Parameters for the CEMs now need to be included – NSR permit dated March 5, 2004.

F. Notifications and Reports
Installation of the ESP/bypass stacks have new requirements – see NSR permit dated March 5, 2004.

Streamlined requirements of NSR permit dated March 5, 2004.
Condition 14: Requirements for initial performance test fulfilled and no need to list in Title V.
Condition 15: Requirements for initial performance test fulfilled and no need to list in Title V.
Condition 18: Requirements for initial notifications fulfilled and no need to list in Title V.
Condition 23: Construction limitations fulfilled therefore condition is OBE.
Condition 32: Applies only to the NSR permit document; no need to list in Title V.

Changes for the 'HEST' process

A. Limitations
Modification to the HEST system requirements – see NSR permit dated April 12, 2005.
New Hot End Surface Treatment chemical being used with new requirements.

B. Monitoring
Visible Emissions Monitoring required for hoods – see NSR permit dated April 12, 2005.

C. Recordkeeping
New requirements for records on the HEST process – NSR permit dated April 12, 2005.

D. Testing
The HEST process has no add-on controls – see NSR permit dated April 12, 2005.

E. **"STATE-ONLY EMISSION CONDITION"**
New HEST process has HCl (toxic) emissions – see NSR permit dated April 12, 2005.

MACT requirements: There are no MACT requirements for glass-melting furnaces.

General Boilerplate conditions were updated with the latest boilerplate changes to the Title V draft boilerplate which is dated July, 2003. These changes are reflected throughout the Title V renewal permit.

The Toano furnaces remain major sources of NOx and SO2, and the facility is major for particulate when the emissions from both furnaces are aggregated. The PTE for each furnace at 85 tons is below the CAM threshold for individual emission units. The 2004 NSR permit shows PM10 emission levels at 72 tons for each furnace and to be measured at the outlet of the ESP. The reason for this is that the control equipment had not been manufactured at the time the NSR permit was issued. For this reason a control efficiency of zero (0 %) was applied in the permit, and therefore the outlet emissions were set at 72 tons for each furnace. Now that the ESP has been installed, a vendor guarantee outlet concentration of 0.2 lbs of particulate (filterable and condensable) can be applied. This calculation yields actual PM10 emissions in the range of 10 tons per furnace.Therefore the ESP outlet emissions are also below the CAM threshold, so CAM is unnecessary.

PUBLIC PARTICIPATION

Draft permit placed on public notice in the Virginia Pilot June 15, 2005 through July 15, 2005.
Public Comments: None
Concurrent review: Draft and proposed permit to EPA on June 15, 2005. Comments: None